Claims

1. Device for evaluating deformations of a structure comprising an elastomeric body, said device comprising a dipole, the dielectric of which is formed by said elastomeric body and an electronic analysing circuit sensitive to a variation of a capacitive characteristic of the dipole caused by said deformations of said body.

2. Device according to Claim 1, further comprising means for evaluating forces to which said structure is subjected as a function of said deformations caused by said forces, the resistivity of said elastomeric body being greater than 10^{13} Ω.cm.

3. Device according to claim 1, the dipole comprising filar electrodes.

4. Device according to claim 3, said electrodes being substantially parallel.

5. Device according to one of the preceding claims, intended to be employed in a pneumatic tire.

6. Pneumatic tire including at least one device according to claim 5.

7. Pneumatic tire according to Claim 6 comprising a tread, the dipole being situated in the thickness of said tread.

8. Pneumatic tire according to Claim 7, the dipole being situated in the volume of a tread block.

9. Pneumatic tire according to Claim 7, the dielectric consisting of the material which constitutes the tread at least in the zone in which it is situated.

10. Pneumatic tire according to claim 7, comprising at least one device according to Claim 3, said device comprising two filar electrodes (6) substantially perpendicular to the longitudinal direction (X) of the tread and substantially parallel to the transverse direction (Y) of the tread.

11. Pneumatic tire according to Claim 7, comprising at least one device according to Claim 3, said device comprising two filar electrodes (6) substantially perpendicular to the transverse direction (Y) of the tread and substantially parallel to the longitudinal direction (X) of the tread.

12. Pneumatic tire according to Claim 10 or 11, said electrodes being situated substantially in the same radial plane of the tread.

13. Pneumatic tire according to Claim 10 or 11, said device comprising at least three electrodes (60; 61, 62) which constitute at least two dipoles.

14. Pneumatic tire according to Claim 7, comprising at least one device according to Claim 3, the said device comprising two filar electrodes situated in a zone of the tread which is not intended to come into contact with the ground when the pneumatic tire is rolling.

15. Pneumatic tire according to Claim 6, the said device being situated in a sidewall of said pneumatic tire.

16. Pneumatic tire according to Claim 15, said dielectric consisting of the elastomeric material which constitutes said sidewall at least in the zone in which said dielectric is situated.

17. Pneumatic tire according to Claim 15, said dipole comprising electrodes which are substantially parallel and oriented substantially radially.

18. Pneumatic tire according to Claim 17, said electrodes being substantially parallel to one another and to the sidewall and extending along a radius of the pneumatic tire, each of said electrodes being situated substantially at the same distance from the centre plane of the pneumatic tire.

19. Pneumatic tire according to Claim 17, said electrodes being substantially parallel to one another and to the sidewall and extending along a radius of the pneumatic tire, each of the said electrodes being spaced from one another in the direction of the thickness of the sidewall.

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20. Pneumatic tire according to Claim 17, the electrodes consisting of interdigitated combs.

21. Pneumatic tire according to Claim 17, comprising a plurality of dipoles arranged
10   along the circumference of the sidewall and connected to one another in parallel to form a single dipole.

22. Elastomeric joint, in particular intended for the chassis system of a vehicle, comprising at least one device according to Claim 1.

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23. Method for evaluating deformations of a structure comprising an elastomeric body, consisting in deducing said deformations from variations of a capacitive characteristic of at least one dipole, the dielectric of which is formed by said elastomeric body.

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24. Method for evaluating the forces to which a structure comprising an elastomeric body is subjected, said method consisting in evaluating said forces from deformations of said body caused by said forces, the resistivity of said body being greater than 10^{13} Ω.cm, said method being characterised in that said deformations
25   are deduced from variations of a capacitive characteristic of at least one dipole, the dielectric of which is formed by said elastomeric body.